Risk Assessment on Planet Wheel Machining

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***Abstract*: Risk assessment and management was established as a scientific field some 30–40 years ago. Principles and methods were developed for how to conceptualize, assess, and manage risk. These principles and methods still represent to a large extent the foundation of this field today, but many advances have been made, linked to both the theoretical platform and practical models and procedures. The purpose of the present invited paper is to perform a review of these advances, with a special focus on the fundamental ideas and thinking on which these are based.We have looked for trends in perspectives and approaches, and we also reflect on where further development of the risk field is needed and should be encouraged. The paper is written for readers with different types of background, not only for experts on risk.**
The following main topics will be covered: Risk analysis and science; risk conceptualization; uncertainty in risk assessment; risk management principles and strategies, having a special focus on confronting large/deep uncertainties, surprises and the unforeseen; and the future of risk assessment and management.

***Index Terms*: Sharp Edge, Overweight, Risk, Material Handling Equipment Hazard, Electrical Hazard, Storage.**

I. INTRODUCTION

The purpose of a risk assessment is to systematically identify all the risks associated with a task, activity, or process, and put appropriate controls in place to eliminate or reduce the risks associated with that activity. This entails breaking the activity down into separate components and ascertaining all the risks associated with each component of the activity. Once the risks areidentified you then assess the level of risk, to determine its priority. According to the level of risk and hence the priority, you decide on what controls you can put in place to eliminate or reduce the risk. Obviously, something with a high level of risk is a greater priority and may need to have more complex controls in place. In many circumstances you will find that it is impossibleto eliminate the risk.
The degree of risk that remains after you have implemented controls is referred to as residual risk. If you find that the residual risks are too high (i.e., you just can't put controls in place that reduce the risk), you may have to abandon the activity orthink of other controls to put in place to reduce the risk. Best results will be achieved if the risk assessment is undertaken by more than one person, as this enables different views and perspectives, meaning that you are better able to identify all the risks.It also means greater and more varied input on determining controls.

II. RISK AND HAZARDS

Lifting loads improperly or carrying loads that are either too large or too heavy resulting in strains and sprains. Being struck by or caught between materials or being caught in pinch points resulting in fractures and bruises.
Materials that fall or collapse when they have been improperly stored or when ties or other securing deviceshave been incorrectly cut or unfastened resulting in cuts, bruises and crushing type injuries.
Contact with moving equipment, vehicles, lifting devices, and/or their unsecured loads that fall or collapse resulting incritical or fatal injuries.
Same level falls and falls from heights when attempting to move, place, store or access materials in an unsafe mannerresulting in critical or fatal injuries
The risk of back injury and muscular strains (musculoskeletal injuries/disorders) from lifting and moving heavy orbulky items of stock is common in workplaces that handle materials on a regular basis.
Incidents where workers are either "struck-by" and/or "crushed" by being hit, struck, or crushed by tools, materials,equipment, or vehicles may result in serious injuries.

III. OBSERVATION OF PROBLEM

In plant, 50% work are carried out by manually.
In previous risk assessment report of plant, only observed to risk does not find outed.The many Activities, sub activities also identified.
Loading of component.
Moving of component.
Fixing of component.
Unloading of component.

IV. SIGNIFICANT RISK

Significant risk study is a risk assessment tool which will assist users in identifying hazard and estimating riskinvolved in each identified hazard.

This risk assessment tool will identify possible hazard involved in each task in departments.Once the hazard has been identified, risks involved will be estimated and categorized.

Then possible control measures will be recommended.

Risk assessment sheet for this present work was being developed by considering the problem identification andabove-mentioned methodology that suits the operation carried out in plant.

Hazard and associated risks are categorized as significant whenThe risk having a score equal or more than 12

Severity equal or more than 3 irrespective of the total ratingAll emergency (no rating given)

Any legal applicable (no rating given)

V. OVERALL POSSIBLE OCCURENCES

Overall Possible Occurrences Individual Operation wise							
Injury	**Overall**	**20**	**30**	**40**	**80**	**90**	**100**
Head Injury	26	6	4	4	4	1	7
Leg Injury	47	13	8	5	9	4	8
Head Injury	9	2	1	0	0	1	5
Back Pain	23	6	3	3	4	1	6
Crush Injury	7	2	1	1	1	1	1

Table 1 Overall Possible Occurrences Individual Operation wise.

Overall possible occurrences should be tabulated from individual operation wise according from the table the leg injuriesare highly affected the workers and low risk is crush injuries.

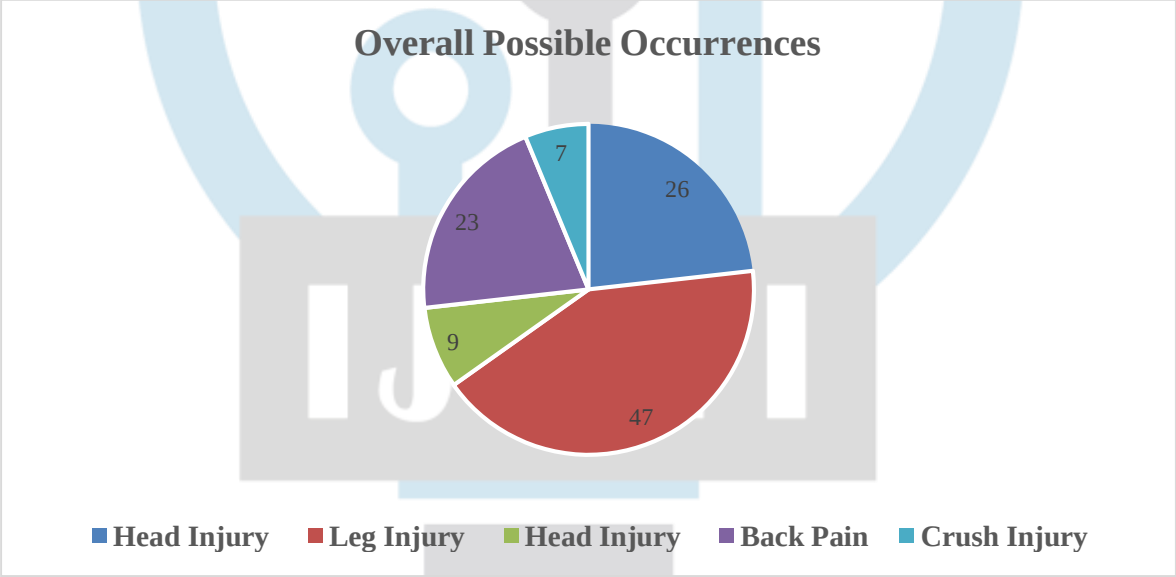

Chart.1 Overall Possible Occurrences.

VI. SIGNIFICANT RISK

Significant Possible Occurrences Individual Operation wise							
Injury	**Overall**	**20**	**30**	**40**	**80**	**90**	**100**
Head Injury	4	0	1	1	0	0	2
Leg Injury	11	3	2	1	1	1	3
Head Injury	0	0	0	0	0	0	0
Back Pain	3	0	0	1	1	0	1
Crush Injury	0	0	0	0	0	0	0

Table 2 Significant Possible Occurrences Individual Operation wise.

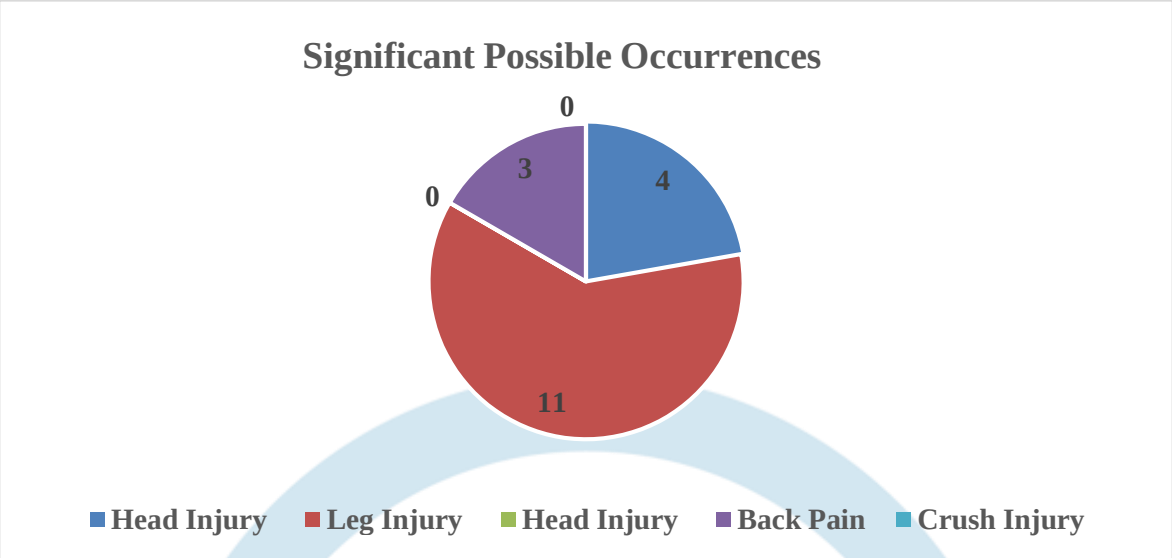

Chart.2 Significant Possible Occurrences.

The result of SRS assessment implementation the injury level has been reduced in company in 3-month observation. Thesafety team members are appreciating the method of risk eva3luation which is followed by this method is very effective than existing evaluation technique.

VII. CONCLUSION

Hazard identification, Risk assessment, control and review are not a task that is completed and then forgotten about.
Hazard identification should be properly documented even in the simplest of situations. Risk assessment should include a careful assessment of likelihood and severity / consequence. Control measures should conform to the recommendations of the hierarchy of control. Some control methods of SCM department were in open status. Target date was fixed to close the control methods which are in open condition. Also control methods in open condition are prioritized for identification to close which task has highrisk. Hazard identification and risk assessment and control are ongoing processes. Make sure to undertake a risk assessment and control process at the proper time and place to control the workplace, making it safe for all who enter.

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